

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-34 (canceled)

1 **Claim 35 (new):** An FCD system for collecting
2 traveling locus data from a in-vehicle unit in a vehicle
3 via beacons,

4 wherein a downstream-side beacon collects the
5 traveling locus data, a traveling distance of the vehicle
6 from an upstream-side beacon to the downstream-side beacon
7 is calculated based on the traveling locus data, and a
8 determination is made whether or not the traveling locus
9 data of the vehicle are used in analyzing traffic
10 conditions of the objective road, by comparing the
11 traveling distance with a distance on an objective road
12 from the upstream-side beacon to the downstream-side
13 beacon.

1 **Claim 36 (new):** An FCD system according to claim 35,
2 wherein the in-vehicle unit contains data of a transit time
3 in each unit interval, which is measured in unit of a
4 predetermined distance, in the traveling locus data.

1 **Claim 37 (new):** An FCD system according to claim 36,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the transit time in the unit interval.

1 **Claim 38 (new):** An FCD system according to claim 36,
2 wherein the in-vehicle unit represents the measured data by
3 a difference component from data measured at a preceding
4 measuring point.

1 **Claim 39 (new):** An. FCD system according to claim 38,
2 wherein the in-vehicle unit converts the data represented
3 by the difference component into variable-length codes.

1 **Claim 40 (new):** An FCD system according to claim 39,
2 wherein the upstream-side beacon instructs the coding
3 system of the data to the in-vehicle unit.

1 **Claim 41 (new):** An FCD system according to claim 35,
2 wherein the in-vehicle unit contains data of an average
3 speed in each unit interval, which is measured in unit of
4 a predetermined distance, in the traveling locus data.

1 **Claim 42 (new):** An FCD system according to claim 41,
2 wherein the deciding means decides whether or not the

3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 43 (new):** An FCD system according to claim 35,
2 wherein the in-vehicle unit contains data of a speed, which
3 is measured every time when the vehicle travels each unit
4 interval in unit of a predetermined distance, in the
5 traveling locus data.

1 **Claim 44 (new):** An FCD system according to claim 43,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 45 (new):** An FCD system according to claim 35,
2 wherein the in-vehicle unit contains data of a traveling
3 distance in each unit time, which is measured in unit of a
4 predetermined time, in the traveling locus data.

1 **Claim 46 (new):** An FCD system according to claim 45,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 47 (new):** An FCD system according to claim 35,
2 wherein the in-vehicle unit contains data of an average
3 speed in each unit time, which is measured in unit of a
4 predetermined time, in the traveling locus data.

1 **Claim 48 (new):** An FCD system according to claim 47,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 49 (new):** An FCD system comprising:
2 a plurality of beacons provided at an objective road
3 section over which traveling locus data of a vehicle are
4 collected from a in-vehicle unit in the vehicle;
5 traveling distance calculating means for calculating
6 a traveling distance of the vehicle from an upstream-side
7 beacon to a next downstream-side beacon on the objective
8 road based on the traveling locus data; and
9 deciding means for deciding whether or not the
10 traveling locus data of the vehicle are used in analyzing
11 traffic conditions of the objective road section, in
12 response to a compared result between the traveling
13 distance and a distance on the objective road from the
14 upstream-side beacon to the downstream-side beacon.

1 **Claim 50 (new):** An FCD system according to claim 49,
2 wherein the in-vehicle unit contains data of a transit time
3 in each unit interval, which is measured in unit of a
4 predetermined distance, in the traveling locus data.

1 **Claim 51 (new):** An FCD system according to claim 50,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the transit time in the unit interval.

1 **Claim 52 (new):** An FCD system according to claim 50,
2 wherein the in-vehicle unit represents the measured data by
3 a difference component from data measured at a preceding
4 measuring point.

1 **Claim 53 (new):** An FCD system according to claim 52,
2 wherein the in-vehicle unit converts the data represented
3 by the difference component into variable-length codes.

1 **Claim 54 (new):** An FCD system according to claim 53,
2 wherein the upstream-side beacon instructs the coding
3 system of the data to the in-vehicle unit.

1 **Claim 55 (new):** An FCD system according to claim 49,

2 wherein the in-vehicle unit contains data of an average
3 speed in each unit interval, which is measured in unit of
4 a predetermined distance, in the traveling locus data.

1 **Claim 56 (new):** An FCD system according to claim 55,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 57 (new):** An FCD system according to claim 49,
2 wherein the in-vehicle unit contains data of a speed, which
3 is measured every time when the vehicle travels each unit
4 interval in unit of a predetermined distance, in the
5 traveling locus data.

1 **Claim 58 (new):** An FCD system according to claim 57,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 59 (new):** An FCD system according to claim 49,
2 wherein the in-vehicle unit contains data of a traveling
3 distance in each unit time, which is measured in unit of a
4 predetermined time, in the traveling locus data.

1 **Claim 60 (new):** An FCD system according to claim 59,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 61 (new):** An FCD system according to claim 49,
2 wherein the in-vehicle unit contains data of an average
3 speed in each unit time, which is measured in unit of a
4 predetermined time, in the traveling locus data.

1 **Claim 62 (new):** An FCD system according to claim 61,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 63 (new):** An FCD system comprising:
2 a plurality of beacons provided at an objective road
3 over which traveling locus data of a vehicle are collected
4 from a in-vehicle unit in the vehicle; and
5 deciding means for deciding whether or not the
6 traveling locus data of the vehicle are used in analyzing
7 traffic conditions of the objective road section, in
8 response to a compared result between the traveling

9 distance of the vehicle from an upstream-side beacon to a
10 next downstream-side beacon on the objective road, which is
11 indicated by the traveling distance data, and a distance on
12 the objective road from the upstream-side beacon to the
13 downstream-side beacon.

1 **Claim 64 (new):** An FCD system according to claim 63,
2 wherein the in-vehicle unit contains data of a transit time
3 in each unit interval, which is measured in unit of a
4 predetermined distance, in the traveling locus data.

1 **Claim 65 (new):** An FCD system according to claim 64,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the transit time in the unit interval.

1 **Claim 66 (new):** An FCD system according to claim 64,
2 wherein the in-vehicle unit represents the measured data by
3 a difference component from data measured at a preceding
4 measuring point.

1 **Claim 67 (new):** An FCD system according to claim 66,
2 wherein the in-vehicle unit converts the data represented
3 by the difference component into variable-length codes.

1 **Claim 68 (new):** An FCD system according to claim 67,
2 wherein the upstream-side beacon instructs the coding
3 system of the data to the in-vehicle unit.

1 **Claim 69 (new):** An FCD system according to claim 63,
2 wherein the in-vehicle unit contains data of an average
3 speed in each unit interval, which is measured in unit of
4 a predetermined distance, in the traveling locus data.

1 **Claim 70 (new):** An FCD system according to claim 69,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 71 (new):** An FCD system according to claim 63,
2 wherein the in-vehicle unit contains data of a speed, which
3 is measured every time when the vehicle travels each unit
4 interval in unit of a predetermined distance, in the
5 traveling locus data.

1 **Claim 72 (new):** An FCD system according to claim 71,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 73 (new):** An FCD system according to claim 63,
2 wherein the in-vehicle unit contains data of a traveling
3 distance in each unit time, which is measured in unit of a
4 predetermined time, in the traveling locus data.

1 **Claim 74 (new):** An FCD system according to claim 73,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 75 (new):** An FCD system according to claim 63,
2 wherein the in-vehicle unit contains data of an average
3 speed in each unit time, which is measured in unit of a
4 predetermined time, in the traveling locus data.

1 **Claim 76 (new):** An FCD system according to claim 75,
2 wherein the deciding means decides whether or not the
3 traveling locus data in the unit interval are used in
4 analyzing the traffic conditions of the objective road,
5 based on the average speed in the unit interval.

1 **Claim 77 (new):** An FCD system for collecting
2 traveling locus data from a in-vehicle unit in a vehicle
3 via a beacon,

4 wherein the beacon collects the traveling locus data,
5 transit road intervals of the vehicle, which come up to the
6 beacon, is specified by using position data contained in
7 the traveling locus data, and a speed is specified by
8 interpolating points between speed data measuring points in
9 the transit road intervals by using speed data contained in
10 the traveling locus data.

1 **Claim 78 (new):** An FCD system according to claim 77,
2 wherein the in-vehicle unit measures intermittently the
3 position data and measures the speed data at a frequency
4 that is higher than a frequency measuring the position
5 data.

1 **Claim 79 (new):** An FCD system according to claim 78,
2 wherein the in-vehicle unit measures the position data at
3 a predetermined distance interval and also measures the
4 speed data at another predetermined distance interval that
5 is shorter than the predetermined distance interval.

1 **Claim 80 (new):** An FCD system according to claim 79,
2 wherein the position data are represented by an argument.

1 **Claim 81 (new):** An-FCD system according to claim 78,
2 wherein the in-vehicle unit measures the position data at
3 a predetermined time interval and measures the speed data

4 at another predetermined time interval shorter than the
5 predetermined time interval.

1 **Claim 82 (new):** An FCD system according to claim 77,
2 wherein the in-vehicle unit represents the measured data by
3 a difference component from data measured at a preceding
4 measuring point.

1 **Claim 83 (new):** An FCD system according to claim 82,
2 wherein the in-vehicle unit converts the data represented
3 by the difference component into variable-length codes.

1 **Claim 84 (new):** An FCD system according to claim 83,
2 wherein the upstream-side beacon instructs the coding
3 system of the data to the in-vehicle unit.

1 **Claim 85 (new):** An FCD system according to claim 84,
2 wherein, the upstream-side beacon instructs a measured
3 value sampling interval, a quantization unit, and a code
4 table in the coding system.

1 **Claim 86 (new):** An FCD system comprising:
2 a beacon provided at an objective road section, for
3 collecting traveling locus data including position data and
4 speed data of the vehicle;
5 road interval specifying means for specifying transit

6 road intervals of the vehicle reaching the beacon, by using
7 the position data in the traveling locus data that are
8 collected by the beacon; and

9 speed specifying means for interpolating points in the
10 specified transit road intervals by using the speed data
11 contained in the traveling locus data that are collected by
12 the beacon and specifying a measuring point of the speed
13 data and a speed at the measuring point.

1 **Claim 87 (new):** An FCD system according to claim 86,
2 wherein the in-vehicle unit measures intermittently the
3 position data and measures the speed data at a frequency
4 that is higher than a frequency measuring the position
5 data.

1 **Claim 88 (new):** An FCD system according to claim 87,
2 wherein the in-vehicle unit measures the position data at
3 a predetermined distance interval and also measures the
4 speed data at another predetermined distance interval that
5 is shorter than the predetermined distance interval.

1 **Claim 89 (new):** An FCD system according to claim 88,
2 wherein the position data are represented by an argument.

1 **Claim 90 (new):** An FCD system according to claim 87,
2 wherein the in-vehicle unit measures the position data at

3 a predetermined time interval and measures the speed data
4 at another predetermined time interval shorter than the
5 predetermined time interval.

1 **Claim 91 (new):** An FCD system according to claim 86,
2 wherein the in-vehicle unit represents the measured data by
3 a difference component from data measured at a preceding
4 measuring point.

1 **Claim 92 (new):** An FCD system according to claim 91,
2 wherein the in-vehicle unit converts the data represented
3 by the difference component into variable-length codes.

1 **Claim 93 (new):** An FCD system according to claim 92,
2 wherein the upstream-side beacon instructs the coding
3 system of the data to the in-vehicle unit.

1 **Claim 94 (new):** An FCD system according to claim 93,
2 wherein the upstream-side beacon instructs a measured value
3 sampling interval, a quantization unit, and a code table in
4 the coding system.

1 **Claim 95 (new):** An FCD collecting facility for
2 collecting traveling locus data from a in-vehicle unit in
3 a vehicle via beacons,
4 wherein the traveling locus data are collected by a

5 downstream-side beacon, a traveling distance of the vehicle
6 from an upstream-side beacon to the downstream-side beacon
7 is calculated based on the traveling locus data, and a
8 determination is made whether or not the traveling locus
9 data of the vehicle are used in analyzing traffic
10 conditions of the objective road, by comparing the
11 traveling distance with a distance on an objective road
12 from the upstream-side beacon to the downstream-side
13 beacon.

1 **Claim 96 (new):** An FCD collecting facility according
2 to claim 95, wherein deciding means decides whether or not
3 the traveling locus data in the unit interval or the unit
4 time are used in analyzing traffic conditions of the
5 objective road, based on a magnitude of the traveling locus
6 data in the unit interval or the unit time.

1 **Claim 97 (new):** An FCD collecting facility according
2 to claim 95, further comprising:

3 a coding instructing means for instructing a coding
4 system of the traveling locus data to the in-vehicle unit
5 from the upstream-side beacon; and

6 a decoding means for decoding the traveling locus data
7 collected by the downstream-side beacon by a decoding
8 system that corresponds to the coding system.

1 **Claim 98 (new):** An FCD collecting facility provided
2 in plural to an objective road section, comprising:
3 data collecting means for collecting traveling locus
4 data provided from a in-vehicle unit in a vehicle;
5 traveling distance calculating means for calculating
6 a traveling distance of the vehicle from an upstream-side
7 FCD collecting facility to a next downstream-side FCD
8 collecting facility on the objective road based on the
9 traveling locus data; and
10 deciding means for deciding whether or not the
11 traveling locus data of the vehicle are used in analyzing
12 traffic conditions of the objective road section, in
13 response to a compared result between the traveling
14 distance and a distance on the objective road from the
15 upstream-side FCD collecting facility to the
16 downstream-side FCD collecting facility.

1 **Claim 99 (new):** An FCD collecting facility according
2 to claim 98, wherein deciding means decides whether or not
3 the traveling locus data in the unit interval or the unit
4 time are used in analyzing traffic conditions of the
5 objective road, based on a magnitude of the traveling locus
6 data in the unit interval or the unit time.

1 **Claim 100 (new):** An FCD collecting facility according
2 to claim 98, further comprising:

3 a coding instructing means for instructing a coding
4 system of the traveling locus data to the in-vehicle unit
5 from the upstream-side beacon; and

6 a decoding means for decoding the traveling locus data
7 collected by the downstream-side beacon by a decoding
8 system that corresponds to the coding system.

1 **Claim 101 (new):** An FCD collecting facility provided
2 in plural to an objective road section, comprising:

3 data collecting means for collecting traveling locus
4 data provided from a in-vehicle unit in a vehicle; and

5 deciding means for deciding whether or not the
6 traveling locus data of the vehicle are used in analyzing
7 traffic conditions of the objective road section, in
8 response to a compared result between the traveling
9 distance of the vehicle from an upstream-side FCD
10 collecting facility to a next downstream-side FCD
11 collecting facility on the objective road, which is
12 indicated by the traveling locus data, and a distance on
13 the objective road from the upstream-side FCD collecting
14 facility to the downstream-side FCD collecting facility.

1 **Claim 102 (new):** An FCD collecting facility according
2 to claim 101, wherein deciding means decides whether or not
3 the traveling locus data in the unit interval or the unit
4 time are used in analyzing traffic conditions of the

5 objective road, based on a magnitude of the traveling locus
6 data in the unit interval or the unit time.

1 **Claim 103 (new):** An FCD collecting facility according
2 to claim 101, further comprising:

3 a coding instructing means for instructing a coding
4 system of the traveling locus data to the in-vehicle unit
5 from the upstream-side beacon; and

6 a decoding means for decoding the traveling locus data
7 collected by the downstream-side beacon by a decoding
8 system that corresponds to the coding system.

1 **Claim 104 (new):** An FCD collecting facility for
2 collecting traveling locus data from a in-vehicle unit in
3 a vehicle via beacons, comprising: wherein the traveling
4 locus data are collected by a downstream-side beacon, then
5 transit road intervals of the vehicle, which come up to the
6 downstream-side beacon from an upstream-side beacon, are
7 specified by using position data contained in the traveling
8 locus data, and then speed data are specified by
9 interpolating points between speed data measuring points in
10 the transit road intervals by using speed data contained in
11 the traveling locus data.

1 **Claim 105 (new):** An FCD collecting facility according
2 to claim 104, further comprising:

3 a coding instructing means for instructing a coding
4 system of the traveling locus data to the in-vehicle unit
5 from the upstream-side beacon; and

6 a decoding means for decoding the traveling locus data
7 collected by the downstream-side beacon by a decoding
8 system that corresponds to the coding system.

1 **Claim 106 (new):** An FCD collecting facility provided
2 in plural to an objective road section, comprising:

3 a data collecting means for collecting traveling locus
4 data containing position data and speed data of the vehicle
5 provided from a in-vehicle unit in the vehicle;

6 a road interval specifying means for specifying
7 transit road intervals of the vehicle reaching the FCD
8 collecting facility, by using the position data contained
9 in the collected traveling locus data; and

10 a speed specifying means for interpolating points in
11 the specified transit road intervals by using the speed
12 data contained in the collected traveling locus data and
13 then, specifying a measuring point of the speed data and a
14 speed at the measuring point.

1 **Claim 107 (new):** An FCD collecting facility according
2 to claim 106, further comprising:

3 a coding instructing means for instructing a coding
4 system of the traveling locus data to the in-vehicle unit

5 from the upstream-side beacon; and
6 a decoding means for decoding the traveling locus data
7 collected by the downstream-side beacon by a decoding
8 system that corresponds to the coding system.

1 **Claim 108 (new):** An in-vehicle unit for transmitting
2 traveling locus data of a vehicle equipped with the unit to
3 beacons, comprising:

4 a coding means for coding the traveling locus data
5 measured after the vehicle passed under an upstream-side
6 beacon; and

7 a transmitting means for transmitting the coded
8 traveling locus data to a downstream-side beacon.

1 **Claim 109 (new):** A in-vehicle unit according to claim
2 108, wherein the coding means encodes the traveling locus
3 data by a coding system instructed by the upstream-side
4 beacon.

1 **Claim 110 (new):** A in-vehicle unit according to claim
2 108, wherein the coding means encodes the traveling locus
3 data by using a code table that is selected from a
4 plurality of held code tables.

1 **Claim 111 (new):** A in-vehicle unit according to claim
2 108, wherein the coding means encodes the traveling locus

3 data by using a plurality of held code tables and then
4 selects data transmitted to the downstream-side beacon from
5 the coded data.